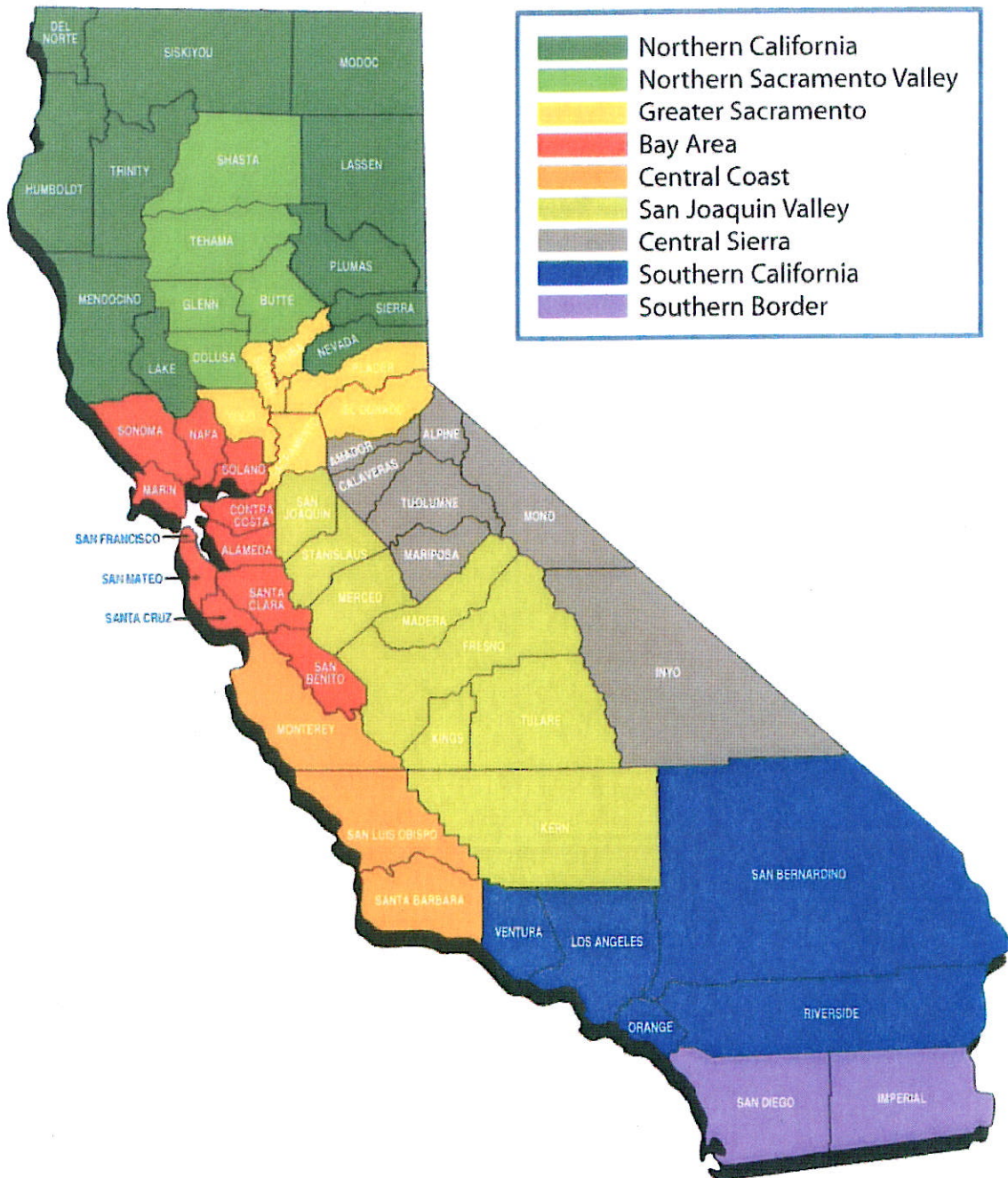


# Career Technical Education (CTE) Working Group

Wednesday, February 28, 2007



# California Economic Strategy Panel Regions



## **CALIFORNIA ECONOMIC REGIONS BY COUNTY**

### **Northern California**

Del Norte  
Humboldt  
Lake  
Lassen  
Mendocino  
Modoc  
Nevada  
Plumas  
Sierra  
Siskiyou  
Trinity

### **Northern Sacramento Valley**

Butte  
Colusa  
Glenn  
Shasta  
Tehama

### **Greater Sacramento**

El Dorado  
Placer  
Sacramento  
Sutter  
Yolo  
Yuba

### **Bay Area**

Alameda  
Contra Costa  
Marin  
Napa  
San Benito  
San Francisco  
San Mateo  
Santa Clara  
Santa Cruz  
Solano  
Sonoma

### **San Joaquin Valley**

Fresno  
Kern  
Kings  
Madera  
Merced  
San Joaquin  
Stanislaus  
Tulare

### **Central Coast**

Monterey  
San Luis Obispo  
Santa Barbara

### **Central Sierra**

Alpine  
Amador  
Calaveras  
Inyo  
Mariposa  
Mono  
Tuolumne

### **Southern California**

Los Angeles  
Orange  
Riverside  
San Bernardino  
Ventura

### **Southern Border**

Imperial  
San Diego



## **DETERMINING THE ECONOMIC STRATEGY PANEL REGIONS**

California has one of the largest and most diverse economies in the world. To create an effective statewide strategy for continued economic growth, it is necessary to identify the different economic regions of the state. Once those regions are identified, policies and strategic initiatives can be developed that focus on each region's strengths and weaknesses.

In response to a directive from the California Economic Strategy Panel, the staff worked with the Employment Development Department to identify factors that determine regional characteristics. This information was used to identify nine economic regions. The remainder of this document discusses the general issues and specific factors that were considered in determining the boundaries for the economic regions.

### **General Issues**

Defining economic regions within California is not a clear-cut process. Frequently, economic activity is determined more by site-location factors than by political or jurisdictional boundaries. However, most economic data are not collected at a more local level than the county. This situation necessitates defining economic regions as aggregations of counties, even when county boundaries do not precisely define an economic area. An ideal situation would be to use sub-county data, but such data tends to be scarce, dated and unreliable.

In general, a well-defined economic region will be fairly uniform within its boundaries, contain economic activities that are interrelated, and have logical jurisdictional boundaries for working with local economic development organizations. The following nine regions possess these characteristics.

### **Factors Used to Identify Nine Economic Strategy Panel Regions**

Numerous factors were reviewed, reflecting the economic, demographic and geographic characteristics of each county in the state. In general, the degree of similarity in characteristics among adjacent counties was the basis for establishing regional boundaries. The following are brief discussions of each factor reviewed, and how it was used to define the nine economic regions.

- **Metropolitan Areas** – The US Office of Management & Budget defines Metropolitan Areas (MAs) using population and commute pattern criteria and county boundaries. MAs combine a core area containing a large population nucleus, with adjacent communities having a high degree of economic and social integration with that core. The term "metropolitan area" includes Metropolitan Statistical Areas (MSAs), Primary MSAs, and Consolidated MSAs. Consolidated MSAs identify existing federally designated regions, and were used to help determine the nine economic regions.
- **Population Centers** – Population centers, and their contiguous areas of growth, are a basic factor distinguishing areas of the state. A population density map was used to identify population centers around major metropolitan areas and along transportation corridors.



- **Commute Patterns** – Commute pattern data from the Census Transportation Planning Package show the movement of workers from their residence to their workplace. The data were used to identify the flow of labor between counties. A strong flow of commuters from one county into another is an indication of the economic interdependence of the two areas.
- **Land Ownership** – Land ownership can significantly affect the economic development potential of an area. Counties with a high percentage of publicly owned land tend to have fewer development opportunities than counties that are predominantly privately owned. Public land ownership in each county was examined to identify similarities among counties.
- **Industrial Composition** – The industrial composition of a county is primarily based upon industry employment patterns. The county factors used in determining economic regions were jobs by industry and share of total employment by industry.
- **Location Quotients** – Location quotients were also calculated for major industries in each county. LQs are ratios computed by dividing a county's percentage of employment in a particular industry by the state's percentage of employment in a particular industry by the state's percentage for the same industry. The economic base of a county was defined by those industries in which the county has a higher proportion of employment than the state as a whole. Adjacent counties with similar economic bases are strong candidates for placement in the same economic region.
- **Labor Force Conditions** – County labor force employment and unemployment data provide a measure of labor availability throughout the state. Adjacent counties with similar labor force characteristics, such as unemployment rates, often have similar economic planning needs.
- **Geographic Boundaries** – Geographic features, such as mountain ranges, can facilitate or hinder the movement of people and commerce between areas. Geography was primarily used in defining boundary counties in the valley, coastal, and Sierra regions.

## **The Nine California Economic Strategy Panel Regions**

### **Northern California –**

The Northern California region consists of 11 counties along the north coast, Oregon border, and northeastern Sierra Nevada. These counties are heavily dependent on natural resources, with the majority of the land consisting of public and privately owned forest and grazing lands. The region as a whole is sparsely populated and underdeveloped.

### **Northern Sacramento Valley –**

This region consists of the Counties of Shasta, Tehama, Glenn, Butte, and Colusa. These counties are primarily agriculture-based, with forestry and farm-related manufacturing



centered in Shasta County. This region differs significantly from its neighbor regions in land ownership and industrial composition.

**Greater Sacramento –**

This region consists of six counties that are becoming increasingly interdependent: Sacramento, Yolo, Placer, El Dorado, Sutter, and Yuba. Although eastern Placer and El Dorado Counties are currently more closely aligned with Lake Tahoe, most of the new growth in those counties is occurring in the western areas. As a result, the economic base is increasingly shifting towards the Sacramento area. Parts of Sutter and Yuba Counties are currently more closely aligned with the Northern Sacramento Valley agricultural areas, but much of the new growth is occurring along Highways 65, 70, and 99, in the direction of the Sacramento area.

**Bay Area –**

Traditionally, the ten counties that border the San Francisco Bay have comprised the Bay Area region. However, San Benito and Santa Cruz Counties have now become more dependent upon that region than on the Central Coast region.

**San Joaquin Valley –**

The San Joaquin Valley region is composed of eight counties that line the southern Central Valley and have economies based upon agriculture and related industries. Sixty percent of the region consists of privately-owned farmland.

**Central Sierra –**

The seven southeastern counties of the Sierra Nevada represent a distinct geographic and economic region. The region is largely government-owned and sparsely populated and composes a small share of state economic activity. As a result, the region requires a different economic development strategy than neighboring regions.

**Central Coast –**

Agriculture, personal services, and government dominate the economic base of the Central Coast counties. In contrast, the Bay Area and Southern California regions are more dependent upon manufacturing and high-wage business services such as finance, software, and movie production.

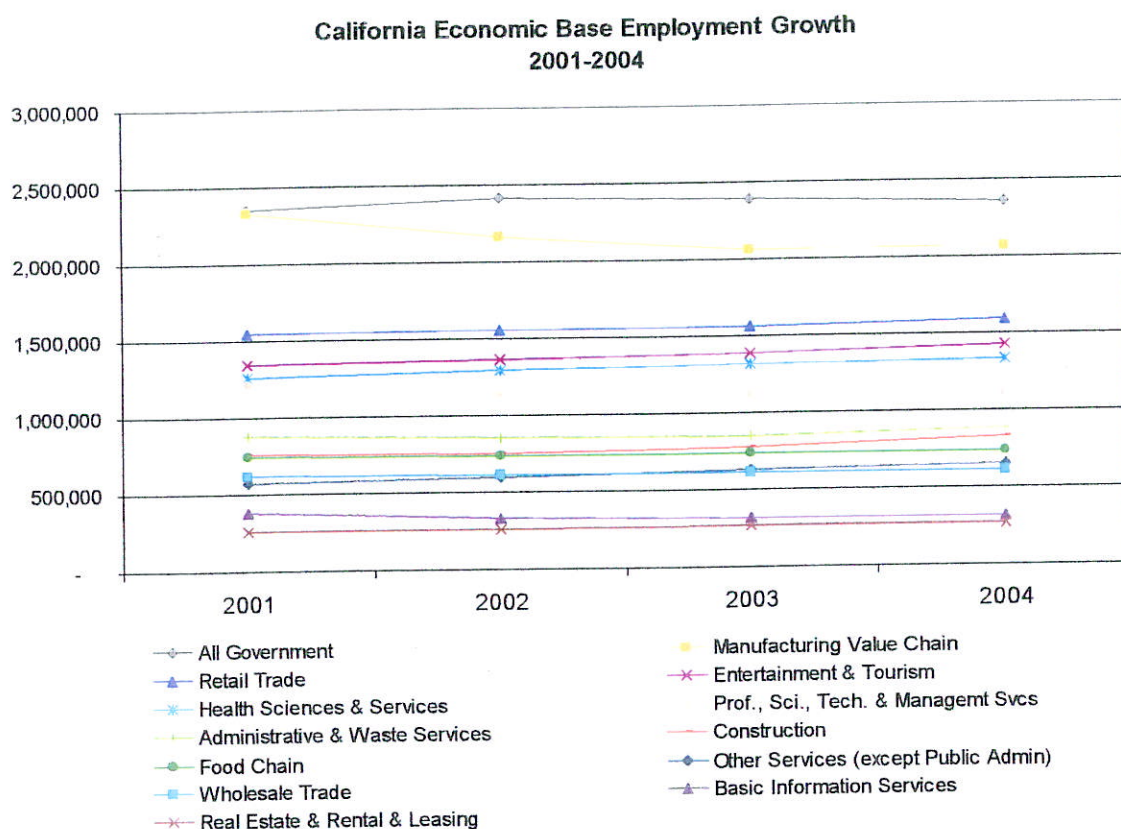
**Southern California –**

The counties of Los Angeles, Ventura, Orange, San Bernardino and Riverside comprise an economic interdependent region. Orange County is different from its northern and eastern neighbors, but not to the extent that a separate region is required. The economic linkages between Orange County and its neighbors, and particularly Los Angeles County, are fairly strong.

**Southern Border –**

This two-county region is the smallest, but most diverse economic region in the state. Imperial County is vastly different from San Diego County, except that the two counties border Mexico. However, that similarity is important for state strategic planning and therefore, necessitates putting both counties in the same region.

The next graph shows employment growth from 2001 to 2004 for all industries and clusters in the economic base:



The industry reporting the highest percentage of employment growth was Other Services<sup>3</sup>, up over 13%, from almost 574,500 jobs in 2001 to over 650,500 jobs in 2004. This was followed by Construction, up almost 10%, from 762,800 jobs in 2001 to over 836,900 jobs in 2004.

The industry losing the highest percentage of its employment from 2001 to 2004 was Basic Information Services, down 17.5%, from 381,600 jobs in 2001 to over 314,700 jobs in 2004. The Manufacturing Value Chain was second highest in percentage of jobs lost.

The following charts provide information on the state's economic base composition at-a-glance through the use of bubble charts.

Interpreting the chart:

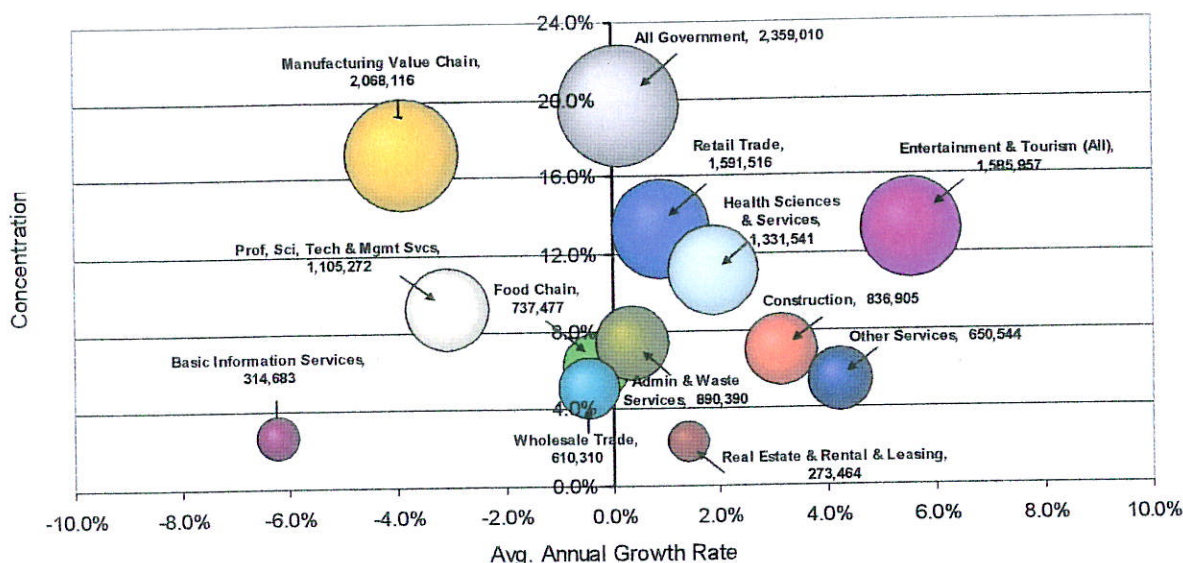
- Bubble size: The size of the bubble represents the employment size of the industry in the region (number of jobs).
- Horizontal placement of bubble: The position from left to right indicates the employment change – to the left of zero means job losses, and to the right means job growth. The net change is graphed as a percentage.

<sup>3</sup> Other Services includes a variety of services, such as automotive repair, religious and civic organizations, personal care services and professional organizations; it does not include public administration. See Appendix A for details.



- Vertical placement of bubble: The vertical position indicates the percentage of the economic base jobs that the industry or cluster provides. (In a later section, this position will represent the concentration of the industry in a region, compared to the concentration at the statewide level. See *The Regional Compositions At-A-Glance*.)
- Bubble color: The color representing a particular industry or cluster is consistent with those used in the regional charts later in this report. (See *The Regional Compositions At-A-Glance*.)

### Statewide Economic Base 2001-2004



#### Highlights from the statewide perspective:

- All Government provides the most jobs in the economic base, followed by the Manufacturing Value Chain, Retail Trade, Entertainment & Tourism (using the statewide definition of Entertainment & Tourism), and Health Sciences & Services. (All Government represents federal, state and local government jobs, and includes state and local education, federal defense, police and firefighting jobs, as well as public service jobs.)
- Entertainment & Tourism reported the highest rate of job growth from 2001 to 2004, followed by Other Services, Construction and Health Sciences & Services.
- Basic Information Services reported the highest rate of job losses from 2001 to 2004, followed by the Manufacturing Value Chain and Professional, Scientific, Technical & Management Services. The other two industries reporting job losses for this period include Wholesale Trade and the Food Chain cluster.
- Eight of the thirteen industries and clusters in the economic base reported job growth from 2001 to 2004, which represents the recent recession and initial recovery period.



The table below provides examples of the industries that comprise the infrastructure value chain and related occupations.

CATEGORY	INDUSTRIES (Examples)	OCCUPATIONS (Examples)
Planning & Design	<ul style="list-style-type: none"> <li>Engineering Services</li> <li>Environmental Consulting Services</li> <li>Surveying &amp; Mapping (except Geophysical) Services</li> <li>Regulation &amp; Administration of Transportation Program</li> </ul>	<ul style="list-style-type: none"> <li>Civil Engineer</li> <li>Cost Estimator</li> <li>Financial Specialist</li> <li>Landscape Architects</li> <li>Geodetic Surveyor</li> <li>Mapping Technician</li> </ul>
Equipment & Materials	<ul style="list-style-type: none"> <li>Construction Equipment</li> <li>Construction Machinery Manufacturing</li> <li>Asphalt Paving Mixture &amp; Block Manufacturing</li> <li>Construction Sand &amp; Gravel Mining</li> </ul>	<ul style="list-style-type: none"> <li>Blow Torch Operator</li> <li>Welding Machine Operator</li> <li>Team Assembler</li> <li>Machine Builder</li> <li>Motor Installer</li> </ul>
Highway & Other Heavy Construction	<ul style="list-style-type: none"> <li>Highway Street &amp; Bridge Construction</li> <li>Heavy &amp; Civil Engineering Construction</li> </ul>	<ul style="list-style-type: none"> <li>Construction Laborer</li> <li>Landscaping Worker</li> <li>General Contractor</li> <li>Concrete Finisher</li> </ul>
Maintenance & Operations	<ul style="list-style-type: none"> <li>Urban Transit Systems</li> <li>Airport Operations</li> <li>Support Activities for Water Transportation</li> <li>Support Activities for Rail Transportation</li> </ul>	<ul style="list-style-type: none"> <li>Operations Manager</li> <li>Machine Operator</li> <li>Mobile Heavy Equipment Mechanic</li> <li>Cargo Supervisor</li> </ul>

**Figure 8: California's Infrastructure Value Chain, Employment Share, 1990-2004**

Employment Share	1990	2000	2004
Planning & Design	36%	37%	39%
Maintenance & Operations	28%	33%	33%
Highway & Other Heavy Construction	31%	26%	24%
Equipment & Materials	5%	4%	4%

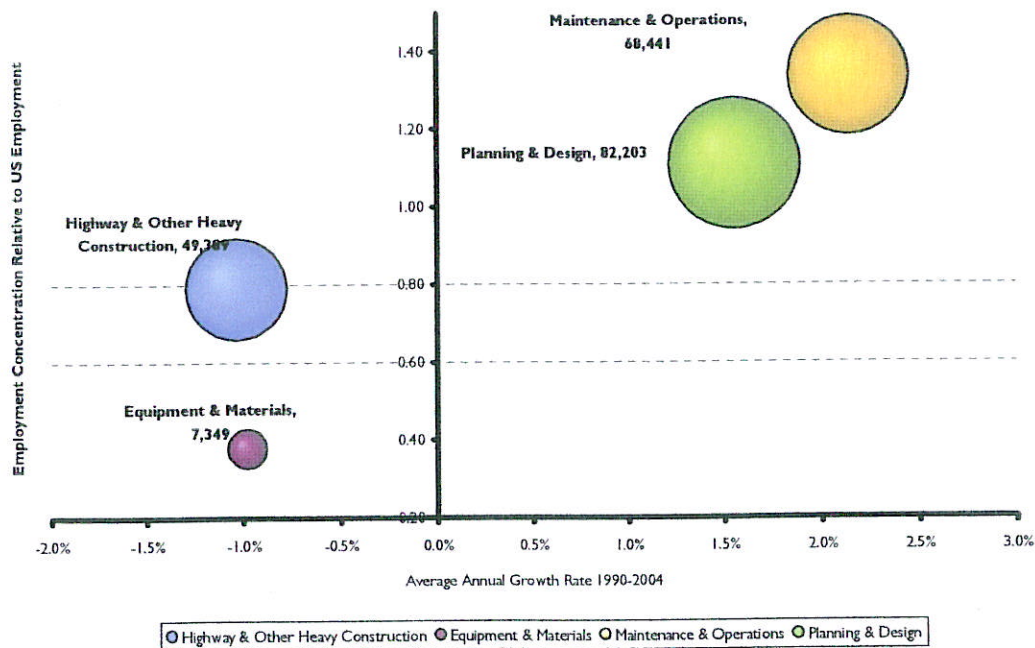
Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Between 1990 and 2004, California's infrastructure cluster experienced a modest average annual employment growth rate of 1%. During the same time period, overall employment in California also grew by 1% on average each year.

As shown in **Figure 9**, employment growth among the different areas of the value chain varied between 1990 and 2004. Maintenance & Operations experienced the highest employment growth rate within the value chain, growing slightly over 2% during this time period. This growth was led by Support Activities for Road Transportation (9%), Airport Operations (4%) and Support Activities for Water Transportation Activities (2%). Growth in these industries is likely a reflection of the rapid increase in travel demand and the State's expanded role in global trade.

**Figure 9: California's Infrastructure Value Chain, 1990-2004**

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages





## What does LMI have to offer to support educational institutions, students and Career Technical Education ?

- Support career selection
- Understand the labor market needs
  - State and local occupational projections
  - Job descriptions, skill needs, going wage
  - Typical training levels
- Support education/training decisions
- Linkage to assessment tools
- On-line crosswalk from TOP/CIP to related occupations (to be released soon). Could explore expanding to include career clusters.
- Crosswalk to DOE "Industry Sectors"



# Projections of Employment

- Projections by industry and occupation, available for the state and local levels
- Local “building block”—county is the lowest level
- Updated every two years.
- Currently, state projections for are on-line for 2004-14. Local projections for that time period are under development; 2002-12 on-line.
- State “short term” (two year) projections updated annually. 2005-7 (third quarter) is on-line now, 2006-8 to be released this spring
- All available on-line at [www.labormarketinfo.edd.ca.gov](http://www.labormarketinfo.edd.ca.gov)



# Projections, cont'd

- Industry projections based upon the North American Industry Classification System (NAICS)
- Occupational projections based upon the Standard Occupational Classification (SOC) System
- Both NAICS and SOC are national standards, and allow us to link to national trends
  - Industries to staffing within industry;
  - Occupations to
    - standardized wage survey results (130,000 employers surveyed)
    - occupational skills requirements from the Occupational Information Network (O\*NET) for 1100 occupations, and
    - self employment trends



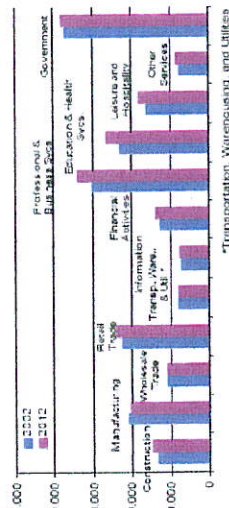
# Occupational Projections— "highlights" for each local area

## Alameda and Contra Costa Counties Projection Highlights

### Industry

Nonfarm wage and salary employment in Alameda and Contra Costa Counties is expected to grow less than 1.1 percent annually between 2002 and 2012. The projected annual growth rate is less than the 1.8 percent forecasted for California as a whole. Nonfarm employment in 2012 is anticipated to reach about 1.1 million, an increase of 76,800. Over 70 percent of all nonfarm wage and salary jobs are forecasted to occur in Professional and Business Services (26%), Educational and Health Services (23%), Leisure and Hospitality (14%), and Retail Trade (10%).

Below is a graph of the 2002 and projected 2012 employment for the major industry sectors.



Industries recording job loss over the projected period included: Manufacturing (-1,800), Transportation, Warehousing, and Utilities (-200), and Wholesale Trade (-100). Within the Manufacturing sector, the greatest concentration of job loss will be in computer and electronic product manufacturing.



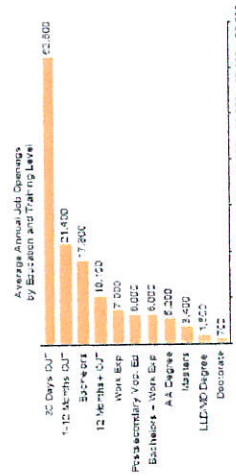
### Occupations

Occupational projections for the period 2002 to 2012 forecast:

- Over 76,000 new jobs from industry growth.
- Nearly 245,000 job openings from Net Replacements.
- A combined total of over 300,000 job openings.

The top 50 occupations with the most job openings will generate over half of all job openings in Alameda and Contra Costa Counties during the 2002-2012 period. These occupations are expected to generate over 168,000 total job openings. While these occupations are typically lower paying, entry level occupations such as Cashiers, Retail Salespersons and Waiters and Waitresses, higher-skilled and higher paying occupations such as Registered Nurses, Managers, Sales Representatives, Carpenters, Computer Software Engineers, and Accountants are also forecasted to have a substantial number of job openings over the ten year period.

The 50 fastest growing occupations are all expected to grow at an annual rate of 1.8 percent or more. Occupations in Health, Hi-Tech, Education, Construction, and Legal fields are scattered throughout the top fifty fastest growing occupations. Most of these occupations require education beyond high school and many pay over \$30 per hour.





# Projections by local area

Occupations With the Most Job Openings* 2002-2012				
Oakland Metropolitan Statistical Area (Alameda and Contra Costa Counties)				
SOC Code	Occupational Title	Job Openings [1]	Median Hourly Wage [2]	Education and Training Levels [4]
6 41-2011	Cashiers	14,770	\$9.34	30-DAY OJT (11)
7 41-2031	Retail Salespersons	12,680	\$10.50	30-DAY OJT (11)
8 35-3031	Waiters and Waitresses	7,780	\$7.96	30-DAY OJT (11)
9 35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	6,950	\$8.44	30-DAY OJT (11)
10 29-1111	Registered Nurses	6,560	\$38.85	AA DEGREE (6)
11 43-9061	Office Clerks, General	6,270	\$14.05	30-DAY OJT (11)
12 53-7062	Laborers and Freight, Stock, and Material Movers, Hand	6,160	\$11.53	30-DAY OJT (11)
13 11-1021	General and Operations Managers	4,680	\$47.78	BA/BS + EXPER (4)
14 35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	4,490	\$8.25	30-DAY OJT (11)
15 43-5081	Stock Clerks and Order Fillers	4,310	\$11.57	30-DAY OJT (11)
16 43-4051	Customer Service Representatives	3,990	\$16.25	1-12 MO OJT (10)
17 41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	3,760	\$25.98	1-12 MO OJT (10)
18 37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	3,660	\$12.71	30-DAY OJT (11)
19 43-4171	Receptionists and Information Clerks	3,460	\$12.88	30-DAY OJT (11)
20 47-2031	Carpenters	3,410	\$25.76	12-MO OJT (9)
21 43-3071	Tellers	3,140	\$10.94	30-DAY OJT (11)
22 47-2061	Construction Laborers	3,140	\$22.46	1-12 MO OJT (10)
23 25-2021	Elementary School Teachers, Except Special Education	3,050	[3]	BA/BS DEGREE (5)
24 15-1031	Computer Software Engineers, Applications	3,030	\$40.76	BA/BS DEGREE (5)
25 43-6011	Executive Secretaries and Administrative Assistants	2,930	\$20.68	1-12 MO OJT (10)
26 37-3011	Landscaping and Groundskeeping Workers	2,730	\$12.19	30-DAY OJT (11)
27 25-9041	Teacher Assistants	2,630	[3]	30-DAY OJT (11)
28 13-2011	Accountants and Auditors	2,570	\$28.24	BA/BS DEGREE (5)
29 43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	2,570	\$23.12	WORK EXPER (8)
30 43-3031	Bookkeeping, Accounting, and Auditing Clerks	2,490	\$18.34	1-12 MO OJT (10)
31 49-9042	Maintenance and Repair Workers, General	2,420	\$19.67	12-MO OJT (9)
32 33-9032	Security Guards	2,370	\$10.86	30-DAY OJT (11)
33 53-3032	Truck Drivers, Heavy and Tractor-Trailer	2,300	\$19.05	1-12 MO OJT (10)

OAK\$OccMost

Unknown Zone



## Other ways LMI can help

- Method to use LMI for program evaluation
- Projection Crosswalk to training programs (Beta version—will be on-line soon)
- Linkage to on-line assessment tools
- Support to generate crosswalks from Department of Education's (DOE) "industry sectors" to occupational projections—demonstrated by work we have done with California Career Resource Network for their California Career Zone web site.



Thanks!

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